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tion has been given thus far to the invisible chemical composition of zygotes in the generations following a cross. PEARL and BARTLETT¹⁹ have investigated a cross between a yellow dent starchy maize and a white sweet maize, and reach the conclusion that low fat content, low protein content, low ash content, and perhaps also low crude fiber and low percentage of pentosans, are inherited as Mendelian unit-characters independent of the units which determine the externally distinguishable characters of color and starchiness. As the method of arriving at this conclusion was indirect, it was impossible to determine whether these chemical characters are also independent of each other. The low grades of all these characters are dominant over high grades. The authors assume that the absence of the genes for starchiness (*ss*) acts as an inhibitor to these chemical units. It would harmonize better with the presence-and-absence hypothesis to regard the low grades of the various chemical substances here considered as the product of the interaction of the corresponding genes with the gene for starchiness. The authors point out that the result of this investigation should lead to a revision of the usual interpretation of the oft-cited selection experiments of the Illinois Agricultural Experiment Station.—GEO. H. SHULL.

Transition from root to stem.—COMPTON²⁰ has published a very useful analysis of the theories of the anatomical transition from root to stem. Its text is the recent notable publication by CHAUVEAUD which COMPTON regards as marking "an important advance in the study of seedling anatomy." In these days, when many botanists are trying to orient themselves in the very rapidly developing field of vascular anatomy, such comparative statements are very helpful.—J. M. C.

Embryogeny of Ranunculaceae.—SOUÈGES has undertaken the investigation of the embryo sac and embryo of the Ranunculaceae, and the papers dealing with the Clematideae were noticed in this journal.²¹ The four most recent papers in the series²² continue the consideration of the Anemoneae, and comprise a detailed account of *Myosurus minimus*. It is interesting to have the embryogeny of this form so thoroughly worked out and so well illustrated.—J. M. C.

¹⁹ PEARL, R., and BARTLETT, J. M., The Mendelian inheritance of certain chemical characters in maize. *Zeitschr. Ind. Abst. Vererb.* **6**: 1-28. *fig. 1*. 1911.

²⁰ COMPTON, R. H., Theories of the anatomical transition from root to stem. *New Phytol.* **11**: 13-25. *fig. 1*. 1912.

²¹ *BOT. GAZ.* **51**: 480. 1911.

²² SOUÈGES, E., Recherches sur l'embryogénie des Renonculacées. *Bull. Soc. Bot. France* **58**: 542-549, 629-636. 1911; **59**: 23-31, 51-56. 1912.